REMARKS/ARGUMENTS

The Office Action dated March 31, 2005 has been carefully reviewed, together with the prior art cited in the rejection of the claims. For the reasons set forth below, it is believed that the rejections have been addressed and overcome, and the application is in condition for allowance.

Notice To Examiner

It is noted that the undersigned attorney of record is one of the inventors identified in the captioned application.

Claims Objected To

The subject matter of claims 8-11 and 24, and 25 are indicated by the Examiner as being allowable, if prepared in independent form.

Withdrawn Claims

Claims 7 and 12 have been withdrawn from examination. Insofar as claim 1 remains generic to dependent claims 7 and 12, the Examiner is respectfully requested to retract the withdrawn status of such claims and include the claims in the examination process.

Rejections Under 35 U.S.C. §102(b)

The Examiner has rejected claims 1-3 and 15 as being anticipated by U.S. Pat. No. 4,932,628

by Pacheco.

The Pacheco portable engine test stand includes a frame with adjustable uprights to accommodate many different types of engines. The portable engine test stand also includes the apparatus necessary to allow an engine to operate; namely, a battery, gasoline tank, a water supply, a stock exhaust and muffler system, and a switch to start and stop the engine. In order to monitor the engine performance, a few vital gauges are employed, including an oil pressure gauge, a tachometer and a temperature gauge. According to the teachings of the Pacheco reference, engines are tested to determine if there are any leaks, determine improper timing, and to carry out tuning operations such as valve adjustment, carburetor adjustments, ignition adjustments, timing adjustments, and the like. It is stated that engines can be operated in the test stand to "break in" the engine before placing it in a vehicle.

Claim 1 of the captioned application specifies a mobile carrier to which an engine is mounted. Aftermarket apparatus for use with the engine is switched in and out of operation by a switch mechanism to thereby determine the effect on engine operation of the aftermarket apparatus. The invention of claim 1 allows an engine to be transported from place to place to demonstrate the affect of the aftermarket apparatus. By switching the aftermarket apparatus into and out of operation while the engine is operating, viewers can determine the affect of the aftermarket apparatus on the performance of the engine.

In the rejection, the Examiner considers the engine itself (of the Pacheco reference) to be the claimed aftermarket apparatus, and the ignition switch to be the claimed switch mechanism.

Claim 1 clearly calls for "aftermarket apparatus *for use with* said engine....." If the engine is considered the aftermarket apparatus, there is no other "engine" disclosed in the reference for use with

the engine aftermarket apparatus. If the Pacheco engine is the aftermarket apparatus, then according to the wording of claim 1, an engine would have to be for use with an engine, which is inconsistent with both the reference and the claim. Thus, the rejection is inconsistent with the clear wording of claim 1.

In addition to the foregoing, claim 1 has been amended to specify that the switch mechanism switches the "aftermarket apparatus into operation and out of operation while said engine is operating to thereby affect said engine accordingly." The switch mechanism thus does not stop engine operation, as does the switch identified by the Examiner in the cited reference. In the Pacheco reference, when the aftermarket apparatus (the engine) is switched out of operation, the engine is turned off. Thus, claim 1 is patentable over the Pacheco reference for this reason also.

As to claim 2, such claim is patentable over the cited reference, as the various displays of the Pacheco reference do not show the operation of the engine when it is stopped, as the engine is no longer operating.

Claim 3 is patentable for the same reasons set forth above in connection with claim 2. Claim 3 is also patentable over the cited reference as such reference does not disclose, for example, a first oil pressure gauge showing the oil pressure when the engine is operational, and a second oil pressure gauge showing the pressure when the engine is not operational.

Claim 15 is believed to be patentable for the same reasons noted above in connection with claim 1.

Rejections Under 35 U.S.C. §103(a)

Claims 4, 5, 13, 14, and 21-23 are rejected as being unpatentable over the Pacheco reference.

The Examiner considers the subject matter of the dependent claims to be obvious in view of the Pacheco reference.

The Pacheco reference teaches an engine test stand that is portable, and different from prior art engine test fixtures which were bulky and heavy, did not permit working on a running engine, and were not mobile. See column 1, lines 16-39 of Pacheco. The purpose of the Pacheco engine test stand is to make it simple and not bulky and heavy so that the engine could be moved around. To that end, the Pacheco portable engine test stand only incorporates the vital test monitoring devices in the test stand (column 2, lines 7-9). It is believed that to add much other monitoring apparatus, the unit would be heavy, burdensome, and no longer portable and cost effective. The vital test monitoring instruments are identified as oil
pressure and water temperature gauges, as these parameters are vital to the operation of the engine.

In addition to the foregoing, it is submitted that if the use of many other different monitoring devices were to be employed with the portable engine test stand, there would be a limiting effect on the number of different engines that could be tested. It is noted in the cited reference that the purpose of the engine test stand is to be versatile so as to accommodate many different types of engines. It is also noted that different engines require different types, shapes and styles of connections and fittings to accommodate different monitor gauges and transducers. Indeed, it is believed that a single gauge, such as a pollution monitoring gauge, would not be so universal as to operate on a host of different types of engines. Thus, to consider that many different monitoring functions, other than the vital functions, would be integrated in the Pacheco engine test stand, would be contrary to the teachings of such reference to achieve a portable engine test stand that could accommodate many different types of engines.

It is submitted that a catalytic converter is not vital to the operation of an engine itself. Indeed, engines may be required to operate with less than maximum efficiency to minimize pollutants. Moreover, it is the engine that is being tested according to the teachings of the Pacheco reference, not the ancillary apparatus, such as a catalytic converter. Other than a rudimentary exhaust system to minimize noise in the shop environment, a catalytic converter would only complicate the test stand and make it more bulky, heavy and more difficult to move around. Indeed, even if a catalytic converter were to be used in the Pacheco mobile engine test stand, it would be a stock catalytic converter that would be known to be working - much like the stock muffler and exhaust system mentioned in the reference (column 4, lines 50-52). Thus, the catalytic converter would not have to be switched into and out of operation, as claimed. As noted above, different engines require different types of catalytic converters. A universal catalytic converter is not shown to be available for use with different engines. Indeed, particular oxygen sensors are used with particular catalytic converters, and a vehicle computer receives oxygen sensor data to dynamically adjust the fuel mixture, etc., to assure proper engine performance according to EPA standards. Each auto manufacturer programs the computer and designs the oxygen sensors and the catalytic converters to function together as a unique unit. Rarely is there any mix and match among the various components to achieve the results expected by the manufacturer. Rather, particular components are required by the manufacturer to assure that the pollutants emitted by the exhaust system meet EPA standards.

In the preferred embodiment of the invention, it is the aftermarket apparatus that is tested to determine the affect thereof on the engine performance. The engine is not required to be different each time, but it is the aftermarket apparatus that is switched into and out of operation. This contrasts with the Pacheco portable engine test stand where a different engine is tested each time, but the apparatus hooked up to the engine remain the same as it is part of the test stand. In addition, the apparatus that is part of the engine test stand is known to be working, and is not the equipment that is being tested.

Rather, the engine is the apparatus whose operation is unknown and is being tested.

Lastly, the mere existence in the prior art of flow rate indications (claim 3), pollutant parameters (claim 4), catalytic converters (claim 13) and dynamometers (claim 14) does not make obvious the use of the same with the claimed engine performance demonstration unit. The examiner is respectfully requested to cite prior art providing evidence of the obviousness of the same with claim 1 of the captioned application.

Claims 21-23 relate to the use of a programmed processor for monitoring the engine performance and providing a visual display of the same. The Examiner contends that it would have been obvious to provide a programmed processor to perform the functions of the unit, such as switching the device in and out of operation, and monitoring and storing engine performance parameters.

According to the Examiners rejections of claim 1, noted above, it would have thus been obvious to employ a programmed computer to control the switching of engine on and off to determine the effect on the engine (claim 21). The examiner has cited no prior art showing the use of a computer for switching an engine into and out of operation to determine the effect thereon. In addition, and as noted above, many engines are controlled by computers, but to integrate a universally programmed computer to control many different types of engines, as are used in the Pacheco test stand, would be expensive, and no such computer is shown by the Examiner to exist.

Claim 22 is believed to be patentable for the same reasons set forth above in connection with claim 21. Claim 22 has been amended. Claim 22 is patentable in its own right over the cited reference, as there is no showing of obviousness of a programmed processor switching aftermarket apparatus into

operation and out of operation, and displaying the engine performance parameters before and after the switching of the aftermarket apparatus.

The *In re Venner* case cited by the examiner in the rejection of claims 21-23 stands for the proposition that providing an automatic or mechanical means to replace a manual activity which accomplished the same result is not sufficient to distinguish over the prior art. In the present case, the examiner has shown no prior art teaching of a manual or mechanical system equivalent to the subject matter of the invention of claim 1 combined with claims 21-23, to establish a basis for asserting that such system could be automated by a computerized system. In the cited reference, it would be extremely dangerous to automatically control the start/stop switch to control the engine mounted to the mobile test stand without any operator intervention. There is not incentive to automate the start/stop switch to the engine mounted to the Pacheco test stand, especially the start operation. The mechanic is the one who determines when the engine is ready to be tested, and the actual decision made by a person's brain cannot be automated. To that end, and to the knowledge of the undersigned, the starting of vehicle engines of the type anticipated to be tested in the test stand of the cited reference, are all started by the initiation of a person doing something, most often manually turning the key to the ignition, speaking to voice recognition equipment, pressing a button of a remote control, etc.

From the foregoing, the invention of claim 22 is not made obvious by the cited reference.

Claim 23 is believed to be patentable for the same reasons set forth above in connection with claim 22.

Claims 6 is rejected as being unpatentable over the Pacheco reference, in view of U.S. Pat. No. 5,637,226, by Adams et al.

Claim 6 is believed to be patenable for the same reasons noted above in connection with claim 1.

New Claims

New independent claim 26 is a method claim that closely mirrors the limitations of claim 1. As such, new method claim 26 is believed to be patentable for the same reasons as claim 1.

New independent claim 27 incorporates many of the limitations of method claim 26, in addition to the magnet for influencing the fuel molecules of dependent claim 6, and the visual indications of engine performance while the engine is running, similar to claim 2. New independent 27 claim is believed to be patentable for the same reasons noted above with claims 1 and 26.

Claims 26 and 27 read on the same species as does claim 1.

Additional Fee

An additional fee $50 is required because of the addition of the new independent claims 26 and 27. A check in the amount of $50 is enclosed herewith to cover the fee for the two new claims. There are currently 22 claims in the captioned application, including three independent claims.

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Conclusion

With the amendments and arguments set forth above, all claims of the application are believed to be fully allowable. The Examiner is respectfully requested to consider the foregoing, reconsider the rejections of the claims, and grant full allowance of the application.

Respectfully Submitted,
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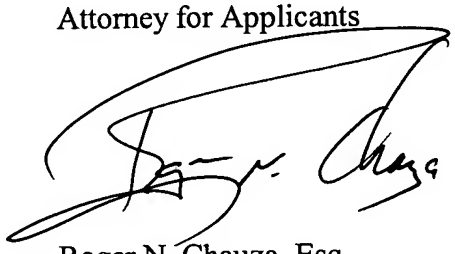
Attorney for Applicants



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June 7, 2005